Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electric motor for use in a surgical procedure, comprising:

a motor output member;

a driven member coupled to the motor output member; and

a driving member having a winding and a magnetic portion disposed proximate the driven member such that energizing the driving member imparts motion to the driven member, wherein the magnetic portion comprises a nanocrystalline alloy characterized by nanoscale grains consuming between about 70% and about 80% of the nanocrystalline alloy, by volume.

2. (Currently Amended) The electric motor of claim [[2]] 1 wherein the nanocrystalline alloy has a thickness ranging between about 100 μm and about 100 mm.

3. (Currently Amended) The electric motor of claim [[2]] 1 wherein the nanocrystalline alloy has a thickness of about 20 mm.

4. (Original) The electric motor of claim 1 wherein the nanocrystalline alloy comprises an iron-based alloy.

5. (Original) The electric motor of claim 1 wherein the nanocrystalline alloy comprises a boron-based alloy.

6. (Original) The electric motor of claim 1 wherein the magnetic portion comprises a plurality of nanocrystalline alloy layers.

7. (Original) The electric motor of claim 6 wherein each of the plurality of nanocrystalline alloy layers has a thickness ranging between about 100 nm and about 100 μm.

8. (Original) The electric motor of claim 6 wherein each of the plurality of the nanocrystalline alloy layers has a thickness of about 20 μm.

9. (Original) The electric motor of claim 6 wherein the driven member is substantially cylindrical and the driving member comprises a substantially cylindrical annulus shape.

10. (Original) The electric motor of claim 9 wherein each of the plurality of nanocrystalline alloy layers are substantially concentric to the winding.

11. (Original) The electric motor of claim 9 wherein each of the plurality of nanocrystalline alloy layers are orthogonal to an axis of rotation of the driven member.

12. (Original) The electric motor of claim 6 wherein the driven member includes a substantially planar first surface and the driving member includes a substantially planar second surface proximate the first surface.

13. (Original) The electric motor of claim 12 wherein each of the plurality of nanocrystalline alloy layers are substantially planar.

14. (Currently Amended) An electric motor, comprising:

an output shaft;

a rotor coupled to the output shaft; and

a stator having a winding and a magnetic portion disposed about the rotor such that energizing the stator imparts rotary motion to the rotor, wherein the magnetic portion comprises a nanocrystalline alloy characterized by grains ranging in size from about 10 nm to about 25 nm and consuming between about 70% and about 80% of the nanocrystalline alloy, by volume, wherein the grains are homogeneously dispersed in an amorphous matrix.

15. (Original) The electric motor of claim 14 wherein the rotary motion of the rotor ranges between about 5 rpm and about 1,000,000 rpm.

16. (Currently Amended) An electric motor, comprising:

a stator having:

a winding; and

a magnetic portion comprising a nanocrystalline alloy characterized by grains ranging in size from about 10 nm to about 25 nm and consuming between about 70% and about 80% of the nanocrystalline alloy, by volume, wherein the grains are homogeneously dispersed in an amorphous matrix; and

a rotor disposed about the stator such that energizing the stator imparts rotary motion to the rotor.

17. (Currently Amended) An electric linear motor, comprising:

a linearly displaceable actuator;

at least one magnetic component coupled to the actuator; and

a stator having a substantially planar winding and a magnetic portion disposed proximate the at least one magnetic component such that energizing the winding imparts linear motion to the actuator, wherein the magnetic portion comprises a nanocrystalline alloy characterized by nanoscale grains consuming between about 70% and about 80% of the nanocrystalline alloy, by volume.

18. (Currently Amended) An electric motor, comprising:

an output shaft;

a substantially disc-shaped rotor coupled to the output shaft and including a plurality of magnetic components collectively forming a disc-shaped annulus; and

a substantially disc-shaped stator having a winding and a magnetic portion disposed proximate the plurality of magnetic components such that energizing the stator imparts rotary motion to the rotor, wherein the magnetic portion comprises a nanocrystalline alloy characterized by nanoscale grains consuming between about 70% and about 80% of the nanocrystalline alloy, by volume.

19. (Currently Amended) A surgical instrument, comprising:

a housing;

an electrical power source;

an output shaft extending from the housing;

a rotor coupled to the output shaft; and

a stator having:

a winding selectively connectable to the electrical power source; and

a magnetic portion disposed about the rotor and comprising a nanocrystalline alloy characterized by grains ranging in size from about 10 nm to about 25 nm and consuming between about 70% and about 80% of the nanocrystalline alloy, by volume, wherein the grains are homogeneously dispersed in an amorphous matrix;

wherein selectively connecting the electrical power source and the stator imparts rotary motion to the output shaft via the rotor.

20. (Original) The surgical instrument of claim 19 wherein the electrical source comprises at least one battery.

21. (Original) The surgical instrument of claim 20 wherein the at least one battery is a rechargeable battery.

22. (Original) The surgical instrument of claim 19 wherein the electric power source is a power cord connectable to a power supply.

23. (Original) The surgical instrument of claim 19 further comprising a surgical tool coupled to the output shaft.

24. (Original) The surgical instrument of claim 23 wherein the surgical tool is detachable from the output shaft.

25. (New) The electric motor of claim 1 wherein the nanoscale grains of the nanocrystalline alloy are homogeneously dispersed in an amorphous matrix.

26. (New) The electric motor of claim 1 wherein the nanoscale grains of the nanocrystalline alloy range in size from about 10 nm to about 25 nm.